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Characteristics of Smokers Compared with Nonsmokers in a Population of Healthy Young Adults, including observations on family history, blood pressure, heart rate, body weight, cholesterol and certain psychologic traits.

Caroline Bedell Thomas

The smoking habits of ten successive classes of Johns Hopkins medical students have been studied in relationship to certain genetic, physiologic, metabolic and psychologic characteristics. Smokers were significantly different from nonsmokers in a number of ways. As a group, smokers: 1) more often gave a history of parental hypertension, 2) had a higher mean heart rate and pulse pressure, 3) had higher cholesterol levels, 4) had a larger proportion of heavy individuals and 5) more often reported reactions of anger and an increased urge to eat when under stress. Nonsmokers: 1) more often gave a history that both parents were free from hypertension and coronary artery disease, 2) had a higher mean diastolic pressure, 3) more often reported decreased activity under stress and 4) more often gave a high number of white space responses in the Rorschach test.

A parallelism existed between the presence or absence of factors thought to indicate high susceptibility to hypertension and/or coronary disease, on the one hand, and the presence or absence of the habit of smoking on the other. The highest proportion of smokers was found in the most susceptible group, Group I, and the lowest proportion of smokers was noted in the least susceptible group, Group IV. Groups II and III were intermediate in both respects.

Broad areas were found where no significant differences appeared between the two groups. The characteristics of smokers and nonsmokers were similar in regard to 1) the responses of blood pressure and heart rate to the cold pressor test, the double Master exercise test and the ballistocardiographic smoking test, 2) academic excellence and 3) most of the Rorschach variables examined, including productivity, constriction, proportion of whole, detailed and very detailed responses, and distribution of color responses.

It cannot be determined from the present data whether individual characteristics which are more often found among smokers than nonsmokers represent constitutional differences or are due to the effects of smoking. The differences observed in the parental histories indicate that smokers and nonsmokers have a somewhat different heritage and suggest that at least some of the differences found in individual traits may be genetic in origin.

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